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ABSTRACT

Attributes of experimental programs, colleges, and institutional projects are described in this compilation, which extends previous reports in the series by reviewing the extent to which experimental programs and colleges make use of independent study and new approaches to teaching and learning. This report also deals with some of the implications for postsecondary administration. The various aspects of experimentation proposed or underway are identified as working hypotheses, which are explained but not defended, concerning independent study and learning theory. No institution is identified in the body of the paper, because the primary concern of the study is with a pattern of experimentation that is more comprehensive than that attempted by any one institution. Factors are identified that must be taken into account if such experimentation is to consider the many critical variables affecting its outcome. (LBH)

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*NEW DIMENSIONS in Higher Education*

*Number 3*

# The Experimental College

*by*
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U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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## FOREWORD

THIS is the third study in the series "New Dimensions in Higher Education." The earlier papers are entitled Independent Study and Effectiveness in Teaching. This study extends its predecessors by reporting the extent to which experimental colleges and programs make use of independent study and new approaches to teaching and learning. In addition, it concerns itself with some of the implications in these new developments for the administration of institutions of higher learning.

The materials used in preparing the paper are the plans for, and the reports of, experimental colleges and programs made in the last 2 years which are on file in the Clearinghouse of Studies on Higher Education.

As with earlier studies that have appeared in the new series, hypotheses are stated--in this instance in what amounts to a briefly annotated check list. The items are presented as hypotheses to encourage the reader to react and possibly even to act. By these and other devices (see inside back cover) it is hoped that a more substantial body of information can be assembled and better hypotheses developed.

Homer D. Babbidge, Jr.
Assistant Commissioner
for Higher Education

## INTRODUCTION

THE ATTRIBUTES of experimental programs reported in this study are not just those of experimental colleges, so called, but include programs and projects of colleges not usually thought of as "experimental." Other features may once have been thought of as experimental but they can no longer be considered such because they have become established practices, at least on the campuses where they were instituted.

No institution is identified in the body of the paper, because the primary concern of the study is with a pattern of experimentation that is more comprehensive than that which any one institution has attempted or, perhaps, contemplated. To suggest the need for action the many and varied aspects of the experimentation underway, or proposed, are identified as working hypotheses. The hypothesis has the further advantage that it sums up and evaluates and hence advances research. While some elaboration of the hypotheses is provided, they are not "defended" (1) because it is not the intent of the paper to advance any particular philosophy or program and (2) because the paper must be kept short if it is to provide a synoptic view of the problem and is to be read to the end. Whether readers concur in or violently reject an hypothesis is unimportant. The important thing is that they react and that their reactions reflect an understanding of the bearing of one factor on other factors and presumably on all.

While some factors have undoubtedly been overlooked and some may receive too much, others too little, attention, a start at least is made in assembling and weighing them. Through reader reaction it is hoped that more of the factors can be identified and better estimates made of the direction the experimentation is taking. It is even possible that some indication may be gotten as to the disposition of college faculties and administrators to experiment.

Although little more than a check list, this statement has been long in preparation (since May 1958). It is a digest of a great many pages of correspondence that the Clearinghouse of Studies on Higher Education has had with institutions interested in experimental colleges and programs.

Much interest has been shown of late in experimental colleges.[1] The reason for this is clear. Some college faculties and

[1] Austin, Bard, Goddard, Hofstra, The New College (Amherst, Mount Holyoke, Smith, and the University of Massachusetts), Michigan State University at Oakland, University of Michigan at Dearborn, The University of South Florida, Wayne State University's Montieth College, and Wesleyan University.

administrators, looking realistically at the problems they face, have concluded that the reforms called for do not have much chance in an established college. Other academicians have read the recommendations of committees, some national, some local, and have noted that there is no dearth of good, or even "respectable," ideas as to what needs to be done. When, however, these same academicians look about for institutions which have put these recommendations into practice, they discover that they are few and far between, and that even those which have done something have, by and large, only "picked" at the problem. This is unfortunate because whole problems cannot be solved by partial approaches to them. The experimental college is one way, and perhaps the most practical way, in which colleges and universities can "do what they must,"[2] and all that they must, if they are to have an appreciable effect on the patterns of higher education. There is, apparently, no easy way to resolve the basic problems facing higher education.

Of the many eminent educators who have spoken out about the need for experimentation, and on a broad front, the following is a representative sample: Chancellor Litchfield's[3] estimate is that colleges and universities have become so complex and disparate that they have lost their organic sense of purpose and direction. Ordway Tead,[4] reacting to the prospectus of New College, sees experiments such as this as the best hope of the liberal arts college, if not of higher education. Clarence Faust[5] sums up: "[This is] a time when testing of new concepts and methods to improve the quality and management of higher education is of profound national importance." Since this testing, on the scale in which it has to be done, requires something very like an experimental college, it behooves us to see what is comprehended in such experiments.

In this compilation the several aspects of experimental colleges and programs are taken up item by item, using letters of the alphabet to identify them. While Q is the last letter employed, the list is this short only because so many subordinate problems are treated under A. Were this category broken down, the whole alphabet would have to be used and used more than once.

The first items deal with independent study (A. I., pp. 3-6) and learning theory (A. II., pp. 6-8). These items, introduced with an hypothesis, are developed at greater length than the others because they are the ones which are receiving the most attention.

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[2] A definition of freedom, Mortimer Adler.

[3] "The University: Congeries or Organic Whole?" by Edward H. Litchfield, AAUP Bulletin, Sept. 1959, pp. 372-79.

[4] "A Ten-Year Look Ahead at the Liberal Arts College," by Ordway Tead, Educational Record, 40 (1959), pp. 228-36.

[5] "The Montieth Plan," by Clarence H. Faust, Montieth College, 1959.

## ITEMS AND HYPOTHESES

A. That the experimental college exploit what has been learned about independent study in particular and about learning in general.

I. About Independent Study.--The research upon independent study[6] suggests:

(1) That such programs be designed for more students, not just for the gifted and not just for upperclassmen.

(2) That they involve more, even most of the student's time, for whatever period is devoted to this type of study.

(3) That in undergraduate colleges independent study be developed in common prescribed curricula or elected liberal arts curricula or in general education programs.

(4) That the methods employed be those of sustained inquiry;[7] of Socratic[8] or problem[9] methods.

(5) That the "best" aspects of established practices such as the lecture, the laboratory, and group discussion be accommodated in programs of independent study, adapting these methods to the purposes of such study.

(6) That reliance on single instruments such as student reading alone or special projects or theses be avoided.

(7) That some combination of the methods employed in independent study (and honors programs)[10] and some infusion of the lecture, conference, and laboratory methods, reported in footnotes 6 and 7, be employed.[11][12]

[6] Independent Study, New Dimensions in Higher Education, Number 1, U.S. Office of Education (in press).

[7] "Inquiry into Inquiry" by Winslow R. Hatch. Improving College and University Teaching, summer 1957, pp. 60-63.

[8] "The Socratic Method in Modern Dress" by Winslow R. Hatch. Improving College and University Teaching, autumn 1957, pp. 93-99.

[9] Effectiveness in Teaching, New Dimensions in Higher Education, Number 2, U. S. Office of Education (in press).

[10] "The Context of Independent Study," Chapter VI, Independent Study, New Dimensions in Higher Education, Number 1.

[11] Antioch, Oberlin, Carleton, Duke, Washington State University, and the University of Michigan.

[12] "Generation of Greatness--The Idea of a University in the Age of Science," The Ninth Annual Arthur Dehon Little Memorial Lecture, Massachusetts Institute of Technology, by Edwin H. Land, Cambridge, Massachusetts, May 27, 1957.

(8) That independent study for independent study's sake, while generally held to be desirable, is not an adequate objective.

(9) That to support and make proper accommodations for independent study, provision should be made for:

(a) Early entrance into college and into these programs of students who have demonstrated their readiness.

(b) Entrance with advanced standing for these students.

(c) Placement and advancement in college on the basis of demonstrated achievement.

(d) Graduation on the basis of demonstrated achievement--rather than upon the acquisition of a prescribed number of hours and credits.

The number of institutions providing for some form of advanced placement (and early entrance) is increasing dramatically. The number of students applying for and receiving credit toward advanced placement has doubled each year for the last 3 years at those institutions which have the largest number of applicants. If it is good educational practice to encourage qualified students to enter college early or to apply for advanced placement--and there is no evidence that it is not--it would seem equally desirable to advance these students faster throughout their college careers and to graduate them sooner. In the examination program outlined below provision is made routinely for this. Earlier entrance of gifted and industrious students into the graduate school or into the world of affairs would seem logical and desirable because they should be as ready for these experiences as they were for the earlier ones.

For students whose learning is not necessarily faster or better but different (e.g., students who study abroad, independently or in organized programs, or those who read a great deal more than their colleagues during vacations or in lieu of class or continuous college attendance, or those who exploit the learning opportunities in well-chosen employments), there is at present no adequate machinery for measuring their educational growth and ordering their educational experience accordingly. This could be done routinely in the kind of examinations described on pages 5 and 6.

If the research (referred to in footnote 14) realizes its present promise, it should be possible for colleges and universities to measure the personality development of their students and their real intellectual maturity as this is reflected in their value systems and judgments.

New as the examination scheme considered here may seem for American colleges and universities, it is not really new. At Oxford, Cambridge and at many European universities, something very like it has been employed for a long, long time apparently without jeopardizing the quality of the education provided.

If it were practicable to institute some such system in the American college, a student's progress in college and his graduation from it could be determined, at least in part, by tests related to the competencies he demonstrated upon matriculation. If the examinations used upon the first generation of students were made available to prospective and entering students, the expectations of the college could be made clear in specific terms. Preparing such examinations, editing and adapting them from year to year, would also force an institution not only to evaluate its purposes, policies, and practices but to state them in precise terms.

In the preparation of these examinations one would presumably start where a beginning has already been made, i.e., with the examinations currently offered in reputable colleges, including both course and comprehensive examinations, from the freshman through the senior year. One could also exploit the experience gained in writing and grading College Entrance and Graduate Record Examinations. [13]

Once enrolled in college, a student could present himself for any examination for which he thought he was prepared, at any time. The existence of such testing instruments should lessen the need of examining students as frequently as is the case at present and would substitute examinations prepared in part by "experts" for those now written by instructors who do not, for the most part, pretend to have any great competence in testing or learning theory and who often give little thought to the basic purposes (apart from "content learning") of higher education. Since it has been estimated that course examinations use up some 15 to 20 percent of a teacher's time and since poorly designed examinations can blunt or misdirect learning, experimentation with examinations has interesting economic as well as educational implications.

(10) That the purposes of independent study and of the above provisions (9a, b, c, and d) may be advanced by "comprehensive" or "field" examinations which test the students' real levels of achievement.

The degree to which the faculty and the administration (i.e., the college) achieve their objectives, might also be determined if these instruments were designed to test the "intangibles" which are a part of learning and of higher education. These "intangibles" are often stated as institutional purposes in college charters, on university seals, in catalogs and promotional literature, and receive much attention in public utterances. These purposes are variously stated as the "pursuit of excellence" or of "truth" or "knowledge;" the mastery of intellectual and related skills such as "unfettered," "critical," or "creative" thought; the inculcation of "democratic," "Christian," or "ethical" values; the cultivation of the "well-rounded" man or of "responsible" or "world" citizenship; or the development of "leadership." The extent to which an institution meets its stated purposes--these or others--is quite unknown to most colleges

[13] College Entrance Examination Board, Frank H. Bowles, Princeton, New Jersey.

and universities, and institutions are apparently content to leave it this way because no very strenuous effort is currently being made to determine how well these purposes are met.

Instruments which measure some of these competencies and qualities have been developed.[14] When, and if, their validity is demonstrated, these tests and interviewing techniques could be assembled in a single battery. Were such a battery used to reinforce comprehensive achievement tests, admission to college could be determined, in part, by the student's performance on these tests.

The purposes of independent study are, first, to encourage in students a lively appreciation of, and some competence in, inquiry. If inquiry is made a goal, "problem solving" methods are good insurance that critical methods will be used by both the teacher and the student and that the learning will not be by rote. It should be emphasized that there is not a method of inquiry but many methods. The "best" method is that which is most appropriate to the subject and is best suited to the talents of the teacher and his students. A second but important objective is to realize the purposes of higher education which, while generally honored, are not so generally practiced.

While the experimental and the experimentally minded college is giving independent study its first real test and while more effective means of appraising the learning of students may now be at hand, the successful use of this method and of these instruments requires a curricular and pedagogical context that reflects something of what is known about learning theory.

II. About Learning.--The research on learning and its practice (teaching)[15] suggests:

(1) That there is educational advantage in common or core curricula. When all students take the same courses in the same order, teaching is more efficient. Learning also appears to be enhanced because when a common body of information is shared by students there is more communication between students and hence more learning by students. While extraneous to our argument, if not to the decisions of administrators, prescription is economical of both staff time and space in that the size of classes can be predetermined and set at optimum and, if necessary, at higher levels.

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[14] "The Passage Through College" by Mervin B. Freedman, The Journal of Social Issues, Vol. XII, No. 4, 1956, pp. 13-28. "Basic Traits in Intellectual Performance" by J. P. Guilford, The Second (1957) University of Utah Research Conference in the Identification of Creative Scientific Talent, 1958, pp. 66-81. "Recent Creativity Studies at Educational Testing Service" by John R. Mills, The Second (1957) University of Utah Research Conference in the Identification of Creative Scientific Talent, 1958, pp. 181-91. "A Study of Diversity in Higher Education" by T. R. McConnell, Donald Brown, Paul Heist, Harold Webster, et al. Center for the Study of Higher Education, 1958, University of California. "The Identification of Creative Scientific Talent" by Calvin W. Taylor, 1956-57, University of Utah. "Impact of a Women's College on Its Students" by Nevitt Sanford, Mary Conover Mellon Foundation, 1957, Vassar College.

[15] Effectiveness in Teaching, New Dimensions in Higher Education, Number 2.

(2) That the curricula of experimental colleges and programs be prescribed for a part of the first two or for all four of the undergraduate years.

In the context described here, the individual differences of students as to interests, ability, and industry are accommodated in independent study. As a matter of fact, independent study provides very nearly all the latitude a student can exploit. Through independent study a student can follow his interests where they lead and extend his knowledge beyond that which he shares with other students. Such uncommon ability as he may possess can be used to push his personal inquiry into material his fellows may not reach. For students of unusual ability and industry such study could result in a natural type of "acceleration." Objective appraisal of the student's achievements could, of course, be made through the use of the comprehensive or field examinations mentioned earlier.

(3) That the more similar the methods employed from course to course, the greater is the transfer of knowledge.

When general use is made of independent study there is much similarity in the methods employed. Since the methods of inquiry employed from subject to subject and from instructor to instructor differ, there need be no "strait-jacketing" of either the teacher or the taught.

(4) That if the objectives of the teachers of different courses are similar and all are concerned with integration, the interrelationships between courses are more obvious for students and the ease and amount of their learning is greater.

Actually the integration between subjects and courses can be pushed to the point where a series of courses becomes, in fact, a course of study, a single interrelated whole. When this happens individual courses become subassemblies that are taught separately for the convenience of teachers, students, and administrators. Finally, courses lacking a common raison d'etre give students little direction as to the nature of the inquiry to which each course contributes--of common undergirding theories or postulates, that are being examined. The organization of curricula into discrete courses has another disadvantage in that it tends to support a kind of academic "featherbedding." Given a course, hours of credit, and prerequisites, there is an understandable disposition on the part of the teacher to expand the course and so justify the credits and himself. He tends to make the course his own, and to think of its content and credits as inviolate. The highly personal nature of some courses--the mirror of the instructor--tends to separate them from the curriculum and the teacher from his colleagues. Finally, as the virtues and the demands of individual courses are magnified, institutional goals become obscured. The disposition in experimental programs and colleges is to:

(a) Make the planning of all courses, general and specialized, a collective effort;

(b) Insist that separate courses reinforce each other, each course acquiring thereby an additional content;

(c) Change the credit for courses from year to year as the requirements of the curriculum and of the students dictate.

As a consequence the convention of "courses" is attenuated and the concept of a "faculty" is undergoing a subtle but important change. In designing or redesigning the "new" curricula, the concern of a faculty is with, first, the theoretical fabric of the subject matters to be taught. Its second responsibility is to frame the problems or topics whose study is most likely to involve the students in the examination of these theories or postulates and, third, to examine and then exploit the curricular reaches of those theories and postulates. The resultant synthesis achieves what is considered to be the most sophisticated kind of integration, "conceptual" integration. The prerequisites of fact and experience required of the students must, of course, be taken into account and the faculty must insist that problems and topics be studied in such depth that the student achieves a subject matter mastery no less than, and preferably greater than, he would have acquired in conventional curricula.

Experimentation in experimental colleges and programs is not, however, confined to pedagogical and curricular problems. There is also a disposition to experiment with new administrative devices. The following are some of the hypotheses being examined:

B. That, while the academic dean must be sensitive to nonacademic matters, he must be able to provide academic leadership.

To this end an attempt is made to make a distinction between the academic and the nonacademic; to charge the dean with a clear responsibility for the former and to provide an associate to relieve him of the latter; to insist that the dean do some teaching or research.

The modern American college and university--to judge from the studies made and reported to the Clearinghouse--is preoccupied with managerial problems. The aspects of management receiving most attention seem to be those concerned not so much with learning as with "publics" and "things"--with donors, legislators, alumni; with cubic and square footages; with plant and efficiency of operations; with "units of productivity;" with credit hours and ratios; and with balance sheets. This may be necessary, but it is unfortunate.

C. That the faculty accept a larger responsibility in academic administration.

American higher education is thought by some to be overadministered. The above accommodation increases a faculty's "load" but it is clearly one antidote for over-administration. How this is done and how much responsibility a faculty can or should accept differs from institution to institution.

D. That there be less departmentalization in these colleges.

This development may take the form of divisional or area organization or the faculty may be organized into teams consisting of those currently instructing the same students. Several disciplines are characteristically represented on these teams. Their size is determined by manageability. The administration of the "team" is usually rotated.

The reason for this is the very general recognition that knowledge is being accumulated at such a rate that a unique competence is possible only in a relatively narrow field. The need for the specialist to see the implications in what he is doing is, however, just as great as ever. For the specialist to achieve perspective by intellectual association in a field as circumscribed as a department is, however, becoming a poorer and poorer expedient. Furthermore, some of the more promising new fields of study are developing on the borders of departmental subject matters. This makes it necessary for these specialists to acquire some knowledge of several subject matters to understand the borders they are exploring. The department has, accordingly, become something of an anachronism. Another consequence of departmental organization is that special departmental interests become for some synonymous with the institution's best interests. The new structure is usually determined by the objectives of the college and by the size of its faculty. A feature stressed is the desirability of having the organization reflect the actual working contacts of faculty members.

E. That provision be made for the distribution of a teacher's load between lower and upper division courses, between general courses and specialized or professional courses; that each instructor be given an opportunity for research.

It is held by many that the edge of a faculty's scholarship can be dulled by repetitive assignment to either lower or upper division, or to general or specialized courses. It is even thought by some that general or lower division instruction can improve the scholarship of a faculty; that a steady diet of advanced or specialized instruction can be stultifying.

Since the specialist has neither the competence nor the time to do research in all the fields that impinge on his specialty, the only practical solution for him, if he is to see his work in perspective, is to make the time he spends teaching work for him, by teaching outside of his specialty without, of course, straying so far that he cannot bring his scholarship to bear. It is thought that specialists can profit, even as specialists, by teaching in introductory courses. This is a new application of an old aphorism--that teaching instructs the teacher.

Teaching that does not involve some research is a poor kind of teaching and research that does not have some relevance to teaching may be inappropriate to institutions of higher education.

F. That the salaries of experimental faculties should reflect the improvements and savings they are able to work.

Since gains in the quality and quantity of student learning have to be demonstrated before any monetary balance sheet is struck

off, irresponsible experimentation is discouraged. A good many pedagogical and curricular innovations have proven to be as good as and potentially better than those employed at present. By some fortunate turn of fate they have also proven to be more economical of time and space.[16] It is this experience that encourages the hope that faculties can improve their teaching and their salaries at the same time. While there are obvious dangers in "buying" a faculty's participation in an experimental program--or any program--it is also obvious that teachers are men and women before they are selfless educators. But basically what appears to be an appeal to the personal interests of teachers is actually an ethical challenge, for it invites them to help, as they can, to provide those salaries without which it will be difficult to improve the status and hence the effectiveness of higher education.

While the motivation of experimental faculties is their conviction that there is a better way to educate than that provided in conventional programs, none are insensible to the fact that their colleges or programs, must be economically operated. Actually, the experimental college may make a notable contribution to the economics of higher education by demonstrating that a better education can be provided for the same or even for less money than traditional methods demand. These faculties may even come up with a more satisfactory unit than credit hours by which the productivity of higher education can be measured.

G. That the budgets provided experimental colleges and programs be comparable to those required of high quality undergraduate institutions with traditional programs.

Since the faculties in experimental programs tend to be "stockholders in the corporation," sharing in the educational profits realized through their collective efforts, a good deal of the unessential educational trappings are likely to be sloughed off. With the "essentials," however, there is no disposition to compromise.

H. That no distinction be made in experimental faculties as to academic rank.

To the extent status in a college or university is acquired by reason of rank, to this extent it is likely to be used irresponsibly--in power politics, for example. Sometimes rank is used to support authority--this despite the fact that authority is generally thought to be a poor substitute for intellectual persuasion. The above device simply recognizes what should be apparent in an intellectual community, namely, that rank or title has no intrinsic worth. By detaching considerations of rank from those of salary, it is hoped that the academician's interest in rank, and in the problems it creates, can be attenuated.

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[16] Reference is made to independent study, some applications of television, early entrance and advanced placement (provided the student is permitted to graduate sooner), and to the findings that while class size is a factor in good teaching and learning it is not the critical factor, i.e., it is not as critical as the quality of the teaching and learning.

I. That members of these faculties be given tenure for an initial 3-year term, to be reviewed at the end of such a period.

The concern of a faculty for security is not a pleasant thing to contemplate. (Studies on the conditions of teachers' employment usually labor under the handicap that they must include security and treat it as a desirable attribute.) Nor is the disposition of administrators to postpone the granting of tenure always seemly. Certainly it is not flattering if their reticence is occasioned by the fact that they made poor appointments. The above is a middle ground between faculty and administrative irresponsibility.

J. That all members of the faculty be released on a staggered basis at the end of a 3-year term (see I.), and that salaries be negotiated at the beginning of each term taking into account all the factors involved.

K. That sabbatical leaves be provided each fourth year (or between terms), these leaves to be earned by teaching three semesters per year.

As regards H, I, J, and K, annual reviews and the employment of elaborate, time-consuming and hence expensive merit systems for determining the qualifications of individual faculty members for advancement in rank, for granting of tenure, for salary increments, and for sabbaticals could, it is hoped, be obviated, in part, if this were done but once every 3 years and if the criteria employed were, very largely, the achievements made by a teacher's students. This information would be routinely available in the record made by an instructor's students if colleges employed comprehensive or field examinations of the sort described in A. I. 10 (pp. 5 and 6).

Analyses of the workloads of academic deans and department chairmen show that a great deal of their time is given to personnel administration. In the evaluation of teaching effectiveness some administrators, in the interest of fairness and objectivity, involve both students and faculty in the development of ratings. While inquiries made of the Clearinghouse indicate that there is much interest in student and faculty evaluation, educators are still looking for better and less onerous ways of recognizing, rewarding, and hence encouraging better teaching. Short of across-the-board raises, which have their defenders, and make but limited demands upon an administrator's courage and time, there may be some such middle ground as the one described here. In this system advantage is taken of student evaluation but it is come by unobtrusively. A critical assumption in this plan is that the examinations used measure the quality of the teaching to which the students are exposed. The likelihood of student abuse of the system is small, for the only way students can help a professor to "advancement and pay" is to do well on their examinations and the only way they can hurt him is to do badly, which is something they are not likely to do intentionally.

L. That the determination of teaching load, under the conditions outlined in (par. F), can be largely left to the individual instructor.

If the teaching method used is independent study, one can afford to employ a prescribed curriculum. In this event the student-teacher ratios can be settled upon in advance. This arrangement does not force an administration to wrestle with the "imponderables" which are so much a part of the problem of determining what constitutes a desirable teaching load. Since salaries under the system described (pp. 9-10) are, in part, determined by the achievements of a teacher's students, such a faculty is not likely to shirk its teaching.

M. That the college operate on a three semester (term) basis, each term to be of fourteen weeks duration, separated by three 3- to 4-day vacation-reading periods.

This arrangement permits an increase in teachers' salaries of 33 percent on an eleven-month basis and enables students to complete their undergraduate education in 3 calendar years or less.

In a society where 16 to 20 or more years are spent preparing professional people for their careers, reducing the amount of time spent in preparation increases the span of a professional person's usefulness. Other experiments with acceleration hold out the hope that something can be done about this problem.

N. That the same opportunities for research and professional development be provided to all instructors regardless of age, rank, and tenure.

The practice of providing full professors with more time for research than assistant professors has presumably come about because full professors have had more time to justify their case for this form of recognition. Certainly it would be hard to justify the implicit assumption that the research of junior professors is, in and of itself, less good because they are younger. In terms of their teaching function, the inference in present practice is that the junior professor is more effective than the senior professor and can be less readily spared.

O. That to the extent it applied to institutions offering experimental programs there be no punitive out-of-State tuition fees; that national representation be encouraged in public and private colleges; that no elaborate institutional scholarship program be used to encourage students to enroll in a given institution but that all institutions let their case rest on the quality of their program.

While obeisance is made to equality of educational opportunity in this country, some institutions of higher education unwittingly perhaps, but quite effectively, limit this opportunity. Out-of-State tuition is a case in point. Where the choice for an in-State student is between the State university or other publicly supported college whose tuition fees are relatively low and comparable schools in other States whose fees are two or three times as

great, he often elects to go to the State university or in-State college. Since few States can provide the best educational experience in all fields of human endeavor, the good student, whose grades would permit him to go elsewhere but are not so outstanding as to win him a scholarship, goes to a school less good for him (and less good for the State and the Nation). Since it is often the specialized training which a State is unable to provide, or provides less well, which that State needs most critically, it is in its best interest to consult with other States, and preferably all States, and ensure equality of opportunity for all of the students living within its boundaries. An odd twist is given this problem by the fact that while some institutions discourage out-of-State students, others spend millions trying to attract them.

P. That work-study options be provided in experimental programs and colleges.

Work-study is an effective educational device. As a way to finance one's education its pay-as-you-go principle has an advantage not found in loan programs, namely, that it does not saddle undergraduate students--and particularly the more successful ones--with debts that discourage advanced study.

Q. That the plant of experimental colleges and programs be developed around a large library-student union building where provision is made for many double-duty conference rooms, some large lecture rooms, complete with audiovisual equipment, large laboratories for class use and desk space for individual student use. A desirable arrangement is to have the staff officed in this building and to provide many student carrels.

While the library is typically described as the heart of the campus it is often more like its liver for it is often a large structure whose significance lies in the potential it may not be called upon to release. What is proposed here is that the library be made the heart of the academic enterprise, in fact, and that it be made to deliver something like its full potential. The student union may seem to be an unlikely place for scholarship. To the extent that this is true it has departed from an ancient university tradition.

## CONCLUSION

Not all of the experimentation done, or all that which needs to be done, has been identified in this piece. The intent of the paper is to suggest the kind of experiments that are being made, or might be made, by an experimental college or in experimental programs. The factors identified represent some of the factors that must be kept in mind if such experimentation is to take into account the many variables, some of which are critical.

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